

Fundamental First-Aid

first'– aid' adj. emergency treatment for injury, etc., before regular medical care is available

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Merriam Webster's Collegiate Dictionary

There's not a hospital in America that is fully prepared to deal with the effects of a wide-scale disaster in which hundreds if not thousands of people would need urgent care. To staff and equip a medical facility to do so full time would quickly cause bankruptcy under normal operating conditions. In order to combat the guaranteed shortage of health care personnel after a major emergency, there is an effort by some authorities to train civilian volunteers in a quick course on medical needs to ease the burden on regular health professionals. While this is a smart move and would greatly release physicians and nurses from some of the more mundane tasks of patient care, a weekend crash course in disaster medicine can only accomplish so much. Have you ever spent time twiddling your thumbs in a hospital emergency waiting room under normal, calm conditions?

Do yourself, your family, and your community a favor by enrolling in a basic first-aid and CPR course. Call your local community college, fire station, hospital, CERT (Community Emergency Response Team) program, or the Red Cross extension in your area today to learn the basic skills necessary to support life when accidents happen or health-related emergencies fall into your lap. Many basic first-aid and CPR courses last a day or two at most and give you a condensed version on what to expect and how to deal with rudimentary injuries and health issues.

For those who wish to know more, Wilderness First Responder (WFR) courses are taught that go well beyond a standard first-aid course and are extremely handy when you're beyond traditional medical care, such as in the wilderness or after a disaster when emergency services may be slow to respond. Many community colleges also offer Emergency Medical Technician (EMT) training for a more advanced look at the human body and how it can be repaired. EMT courses, while worth their weight in gold, rely heavily on transportation to a regular medical facility and technical goodies beyond the scope of ordinary folks. Many ambulance and fire-fighting crews also have a paramedic onboard for even more advanced life-support options. The human body is what you're trying to keep alive, yet it's amazing how little survival students and even survival instructors know about human physiology. The more you know about the human body and how to patch it back together, the better off you may be after a crisis.

Home Sweet Home?

According to a dated, 1985 version of the book *Family Safety and First Aid*, put out by Readers Digest, about 9 million Americans each year called a physician to deal with an injury sustained in their home. Within a twenty-four hour period, 63,000 people cut, bruised, scalded, poisoned, or burned themselves while in the comfort of their own homes. More than twenty years later, this number has probably doubled or tripled if not more. Most of these accidents could have been prevented by simply paying attention, or by correcting the potential causes of accidents in the first place.

What do you think would happen to these statistical numbers after an emergency? How would they be affected if people were forced to rely on unfamiliar disaster supplies for a number of days or weeks? There can be little doubt that even a well-stocked family has not taken the time to learn how to use their supplies on a sunny pleasant day in the backyard let alone when all hell is breaking loose environmentally and otherwise.

If your home is an accident waiting to happen, it ain't gonna get any better under extreme stress. Get your ducks in a row by making needed repairs and upgrades as soon as possible for the safety and convenience of your family.

The Creepin' Crud and You

"We don't know the timing of the next pandemic, how severe it will be. We don't know what drugs will work. We don't have a vaccine, yet we are telling everyone to prepare for a pandemic. It's tricky . . . This is scary and we don't know . . . That's the message."

— Dick Thompson, World Health Organization

Despite annual vaccinations, run-of-the-mill influenza in the United States kills more than 36,000 people and lands 200,000 more in hospitals each year. In addition to the body count, influenza is annually responsible for a total cost of over \$10 billion in the United States alone.

There are very nasty things floating around the planet such as SARS and the avian flu (bird flu). Apparently forgetting about the sinking of the continents Lemuria and Atlantis, Secretary Michael Chertoff of the Department of Homeland Security said, "The avian flu bears the potential for societal disruption of unprecedented proportion." According to the Centers for Disease Control (CDC), a pandemic, or worldwide outbreak of a new influenza virus, could make the above paragraph look like a fart in the wind. A flu pandemic in this day and age

would utterly overwhelm this country's health and medical capabilities, with effects, to quote the CDC, "potentially resulting in hundreds of thousands of deaths, millions of hospitalizations, and hundreds of billions of dollars in direct and indirect costs." Pandemics have occurred throughout history. The last three occurred in 1918 (40 million dead), 1957 (2 million dead), and 1968 (1 million dead) worldwide. The Spanish influenza epidemic of 1918 has been studied by health professionals over and over again for clues on how to better mitigate a modern-day pandemic, and unfortunately, it has left more questions than answers.



According to the CDC, the next pandemic "is likely to come in waves, each lasting months, and pass through communities of all sizes across the nation and world. While a pandemic will not damage power lines, banks or computer networks, it will ultimately threaten all critical infrastructure by removing essential personnel from the workplace for weeks or months." A worst-case scenario pandemic plan from the CDC involves the general public staying in their homes; no school, no shopping, no nothing, for up to three months. Do you

have the supplies, skills, and psychological fortitude to stay in your home for three months? You sure would have time to put a dent in that favorite book you've been wanting to read (or write!).

Our little hamlet has already done a body count, so to speak, on how many corpses the county could handle at once due to a flu pandemic by compiling information on available space from local hospitals and morgues. No doubt your town or city has done likewise although you haven't heard anything about it—which is not necessarily a bad thing.

There are researchers who study not just diseases, but how human minds and emotions will react to diseases when they threaten to manifest themselves as full-blown epidemics, and the results are not pretty. The first thing researchers learned is that the mob is indeed fickle, and people either act irrationally by rushing to hospitals before they have symptoms or stay home even when they are extremely ill and need treatment. And, of course, chaos breeds more chaos, so the more “freaked” people become after an outbreak, the more difficult the disease is to contain. This irrational behavior spawned by a lack of prevention training could hit America's pocketbook hard. Estimates from the Congressional Budget Office put the potential costs of a flu pandemic at \$675 billion. And, as proof of our nation's half-assed preparedness training for the public, half of this cost will be because of fear and confusion! How much preparedness training could the American people get for a little over \$337 billion? We have some of the best-trained disaster response personnel in the world, but the general populace—forget about it!

Now, the chances are very high that if you're reading this book, you are not a dyed-in-the-wool “sheeple” (people + sheep = sheeple). You have the intelligence and foresight to recognize what the government apparently has not, that strength and independence come from the ground up, and that the best disaster plan is to have everyone empowered, prepared, and on the same page—not just the wonderful agencies who are expected to mop up the mess after the fact. We have become famous for expertly picking up the pieces of the smashed lamp instead of realizing it was too close to the edge of the table to begin with. Fortunately, you have the choice to prepare as you want for the unexpected, and it's you who should ultimately prepare for the safety and welfare of your family, not the government. If you need a refresher on the concept of self-reliance, flip back to the first part of the book.

Although I'm a wilderness EMT, I'm not about to cut and paste together a chapter on emergency first aid. It's not my forte, although I know a lot about human physiology and its repair, and the psychological nuances that influence it. What I do want to cover in this chapter are basic remedies and preventions for some of the more common problems that may be experienced during and after a compromising situation. Trials such as nausea, diarrhea,

blisters, or burns will be common for a population that is suddenly forced to whip out and use their survival supplies under stress. I repeat, take a qualified class on first aid with a known health care provider in your area. Do it soon—don't put it off and have to learn the hard way when all hell breaks loose.

Reducing the Spread of the Flu from You

According to the CDC and common sense, an infection carried by one person can be transmitted to dozens, even hundreds of other people. Because of this fact, your action or lack of in mitigating the spread of disease is perhaps the most important part of preparing for a pandemic outbreak. If you or one of your family members gets the flu, take the necessary steps to prevent it from spreading to others. Be prepared to follow public health recommendations that may include limiting attendance at public gatherings and travel for several days, weeks, or months. The obvious end result of this is to have the necessary emergency supplies in your home to deal with isolation for a long time. Fear mongering? Paranoia? Months at home you say? Yep. And it's not my opinion. All of the information in the above paragraph was pulled from the Centers for Disease Control Web site about a potential influenza (flu) pandemic.

Stuff You Can Do to Avoid the Flu

- Stay healthy. Eat right, exercise, and limit bad habits, such as smoking, drinking alcohol, and having too much stress.
 - Wash your hands frequently with soap and water.
 - Liberally use waterless hand sanitizers.
 - Cover your nose and mouth with a tissue if you cough or sneeze.
 - Safely dispose of your tissues in a wastebasket.
 - Cough or sneeze into your upper sleeve if you don't have a tissue.
 - Wash your hands after coughing or sneezing or use a waterless hand sanitizer.
 - Avoid touching your eyes, nose, and mouth.
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- Avoid close contact with others who are ill. Take precautions and wear a medical mask or quality dust mask purchased from a hardware store if necessary.
 - Stay home if you're sick.
 - Purchase several copies of this book to give to friends and family.
 - Pay attention, use common sense around others, and maintain a positive attitude. After all, the true nature of all disease is "disease."
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Open Wounds

Flesh wounds will be a very common injury during a disaster. There are many types of wounds, from incisions and scrapes to puncture wounds and full-on amputations. Some require specialized treatment, yet there are more similarities than differences when the protection of the skin is breached.

Control the Bleeding

Wounds that bleed freely must be controlled. The following guidelines should be used when you need to prevent excessive bleeding. *Protect yourself from blood and body fluids at all times!*

1. If you have the time, wash your hands with soap and water before caring for a wound.
2. Put on latex gloves to protect yourself from bloodborne infections and body fluids. These can be improvised from plastic bags or other nonpermeable membranes.
3. Have the patients sit or lie down. If large amounts of blood have been lost, they will experience shock, so keep them warm and have them lie on their back and elevate their legs nine to twelve inches. Even small wounds can cause people to become nauseous, dizzy, or faint, so play it safe and get them on the ground.
4. Expose the wound and apply direct, even pressure over the entire wound area with a clean dressing or cloth for five to ten minutes or longer until the bleeding has stopped. Bleeding from an extremity such as an arm or leg can be slowed by elevating the limb above the heart while applying the pressure. If the bleeding continues after ten or twelve minutes, apply greater pressure over a greater area of the wound

or use a pressure dressing, which is nothing more than tightly tying thick dressing materials over the wound site using bandaging material such as a strip of fabric or clothing. If using a pressure bandage, don't tie it so tightly that you reduce the circulation in the rest of the limb. If the limb feels colder or turns a blueish color, loosen the bandage. If the dressing material that was used on top of the wound is removed too quickly in order to clean the wound, it may pull away the blood clots that have stopped the bleeding. Use discretion and seek medical care for large wounds.

Cleaning and Caring for the Wound

The next step in proper wound care is to properly clean and bandage the wound to prevent infection and promote proper healing. While wounds should be cleaned and kept as clean as possible, I have pushed the envelope many times over the years on back-country field courses. As I go barefoot most of the time, I've lost count of how many superficial wounds I've had on my feet with which I've marched through miles of filthy water and dirt for several days with no other initial care than washing off the blood in the river. I don't bandage or cover the wounds as it would fall off anyway due to environmental circumstances. In each incident the wound healed fine. I'm not recommending that you blow off treating your wounds, yet some wounds, especially the superficial kind, can go through hard times with a minimum of care and be OK. Don't psych yourself out that you'll lose your arm or a leg because you can't keep a wound spic-and-span clean.

The following guidelines for the treatment and care of generalized wounds are standard practice and can prevent many simple mishaps from growing into a major infection problem.

Basic Wound Care

Shallow Wounds

1. Clean the wound and the surrounding area thoroughly with soap and water. This may restart bleeding but it needs to be done. Smaller wounds should be encouraged to bleed at first to flush out potential debris that may be in the wound itself.
2. Cover the wound with a sterile or clean dressing and bandage in place. Although I rarely do so myself, you can use a thin layer of antibiotic ointment on the cleaned wound before covering with the dressing.

3. Inspect your wound(s) for infection morning and evening for the first few days and clean and change bandages as needed.

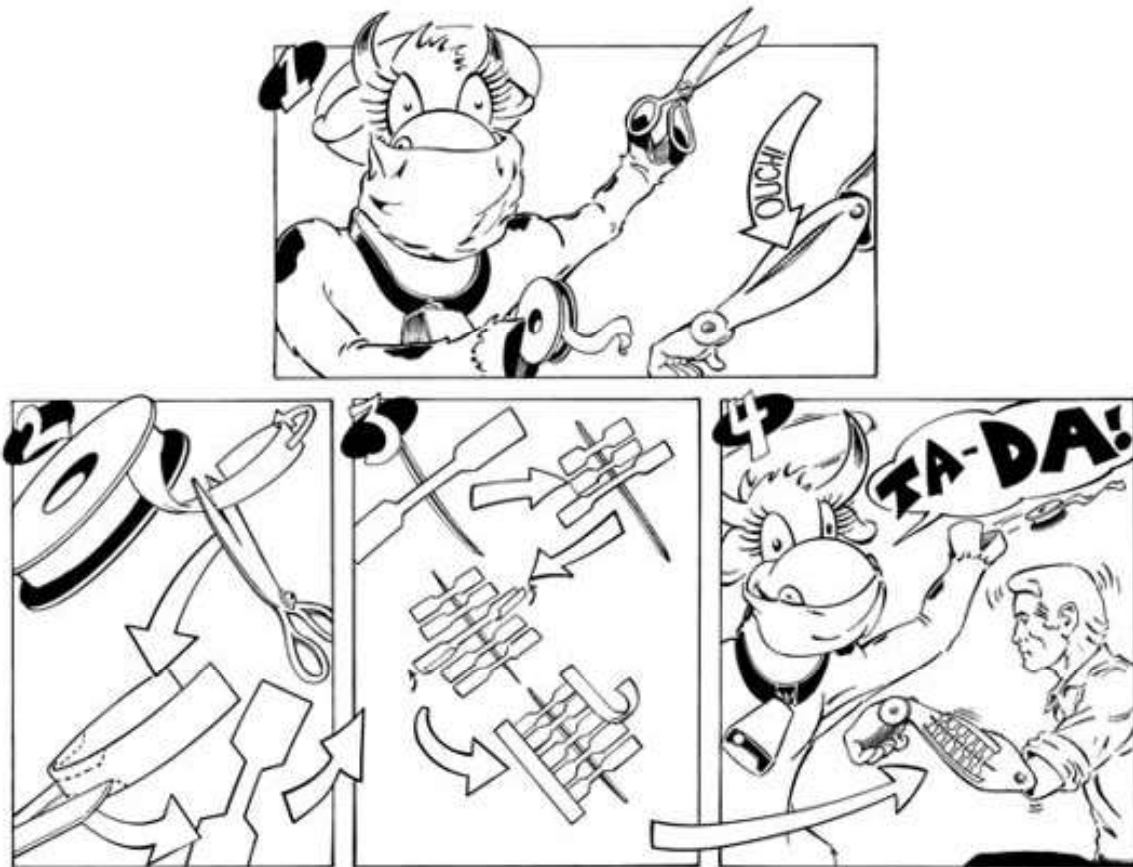
Deeper Wounds

Deeper wounds will need to be “irrigated” as part of their cleaning ritual. Irrigation involves forcefully squirting potable water into the wound itself to wash out pieces of dirt, sand, metal flakes, blood clots, tissue or anything else that will start an infection. (Note: See [the water disinfection methods](#) for treating nonpotable water. Don’t use full-strength topical disinfectants such as iodine or povidone-iodine in the wound itself as they may damage the tissue and delay healing. Instead, use them to disinfect the skin around the wound. A diluted povidone-iodine solution using ten to twenty parts clean water can be used directly on the wound if desired.)

You’ll need to spread some wounds open to reach their depths for proper irrigation. Protect your eyes and mouth when irrigating wounds as things can get messy. Many first-aid kits have a large-diameter syringe that can be filled with fluid for this purpose. You can easily improvise an irrigation option from a clean zipper-lock freezer bag or other baggie although it will not be as effective as a syringe. Fill the baggie with the disinfected solution and use a needle sterilized with a flame to pop a small hole into one of the corners of the baggie. Squeeze the baggie as necessary to obtain as much of a forceful spray as possible. Any chunks of foreign matter that remain will need to be wiped out or picked out with sterilized tweezers.

Small, clean wounds can be closed with tape or butterfly bandages if the edges can be pulled together. Deeper, larger wounds can be treated in the same manner but may need advanced medical care. Large gaping wounds should be cleaned the best that you can, packed with sterile dressings, and carefully bandaged until the person can receive proper medical care.

Inspect the wound(s) for infection morning and evening for the first few days and clean and change bandages as needed.



Infection

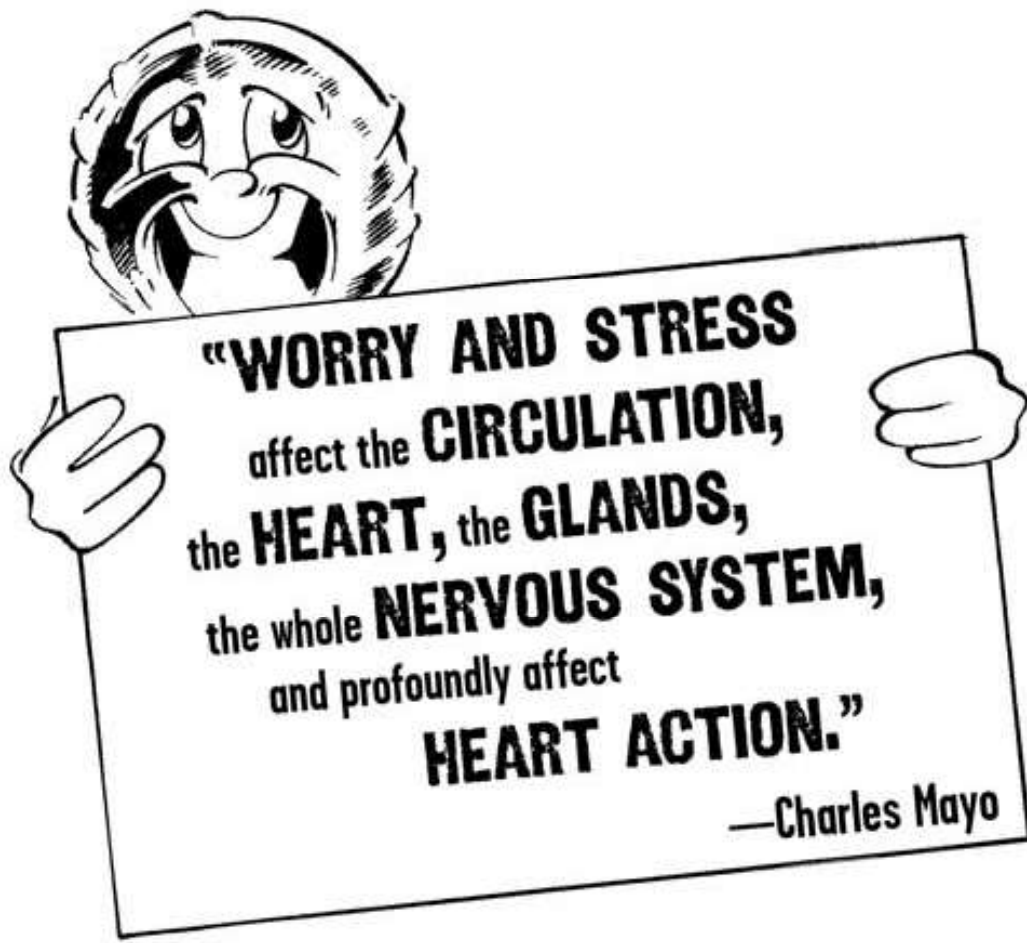
Any breach in the skin provides an area for possible infection. Deep or large wounds that are difficult to clean and keep clean are the most susceptible to infection but even superficial surface abrasions can become infected. Some of the following signs will be experienced in a wound without an infection but will be much more pronounced when infected. The pain from most soft tissue injuries begins to subside after two or three days. If the pain continues or increases, the wound is infected.

Signs of Infection

- Redness surrounding or spreading from the wound. In more advanced cases of infection, a “red line(s)” or streak(s) may travel from the wound to the heart. (I’ve had

more than one friend involved in the art of brain-tanning deer hides whose small cuts on their hands became open doors to infection from nasty funk from the hides. In each case, they required large doses of intravenous antibiotics at the local hospital to kill the infection.)

- Increased pain and tenderness
- Swelling
- Pus. Pus can be off-white to light green, pinkish, or even straw-colored or clear and drain directly from the infected wound or collect in an abscess or boil under the skin. The discharged pus may or may not smell. Abscesses will eventually form a whitehead like a pimple (which can be accelerated by hot compresses or soaking in hot water) and should then be drained and kept clean
- Swollen lymph nodes, usually whichever is closest to the wound
- Limitation of motion due to swelling and pain
- Persistent, above-normal oral body temperature
- Chills and fever (strong indications that the infection has spread into the blood and can become life threatening)



Dealing with a Wound Infection

1. Wash hands with soap and water and clean the surrounding skin area with a topical disinfectant.
2. If not already opened, open the wound gently using a sterile object to allow the buildup of pus to drain. Soaking the wound in warm water beforehand will help the wound drain more easily by dissolving the crusty serum and pus that sometimes keeps a wound closed. Pus can form in multiple pockets deep within a wound so in-

spect it to see if there are others that need to be drained other than the obvious. It's very important that infected wounds be allowed to properly drain. As long as an infection is present, don't allow the wound to close on its own. This can be accomplished by inserting a piece of dry, sterile gauze into the wound, which should be changed whenever the dressing is changed.

3. Soak the wound in warm, disinfected water four times per day for twenty to thirty minutes, with or without a small amount of added povidone-iodine. The warm water also helps in the healing process as the heat dilates the blood vessels, bringing more blood to the infected area.
4. After soaking, carefully dry the affected area and change the dressings as often as required to keep them clean and dry.
5. Give over-the-counter pain medications if needed such as ibuprofen, aspirin, or acetaminophen. Aspirin is a blood thinner so use with caution.
6. For advanced infections, the use of antibiotics will most likely be required. Important Note: Most antibiotics are available by prescription only and, like any other drug, have a shelf life. Consult with your family physician about having a ready supply of topical antibiotics for a disaster scenario in which medical response may be severely limited or delayed. People traveling to remote countries often take with them a doctor-prescribed supply of oral antibiotics due to meager resources or to deal with just-in-case scenarios.

Burns

Burns will also be a very common injury due to the flourishing use of alternative lighting devices and the general population's renewed reliance on fire for heating and cooking. Thanks to gestapo-like federal forest regulations regarding fire use and the neutered, unrealistic views of banning campfires in the back country by gear-addicted, politically correct outdoor companies, even well-seasoned outdoorsmen and women are hopelessly clueless about the creation, use, and extinguishing of fire. Can you imagine the burn injury rate if every household needed to use fire to get their needs met as was done for thousands of years?

Burn Classifications

There are three types or classifications of burns, *first degree*, *second degree*, and *third degree*. In a first-degree burn, the outer layer or epidermis is affected and the skin appears mildly red, swollen, and painful, but no blisters are formed. Almost everyone has experienced this in the form of a common sunburn. Second-degree burns pass through the epidermis and extend into the dermis or secondary layer of skin. The pain and swelling is moderate and blisters are present. Both of these burns are classified as partial-thickness burns. Third-degree burns reach into the underlying fat and muscle tissue of the body and are termed full-thickness burns. The skin appears charred and leathery, is numb to the touch from the burn victim's standpoint, and for all intents and purposes is "dead." Much like a piece of wood in a fire, a single burn upon the body can exhibit characteristics of all three burn classifications.

How much of the body was burned, where the burn(s) occurred, and whether the burns are partial or full thickness will determine how the patient is treated and what their odds for survival are. Burns to the face, neck, hands, feet, genitalia, and buttocks are serious. Facial burns can cause serious damage to the respiratory tract and compromise breathing. Burns completely encircling the body (circumferential burn) can have a tourniquet effect on the body. I won't go into the details for major burns or burns that involve much of the body, as people with these burns will need hospitalization if they are to survive. With no hospitalization they will most likely die from "burn shock" caused by damaged capillaries allowing blood serum to leak into the burned tissue. This fluid loss reduces the blood volume of the body and rapidly causes shock just like a major bleeding incident. People with severe burns require massive amounts of fluids to survive, which must usually be given intravenously. ***Important!*** *All serious burns will need advanced medical care as soon as possible!*

Dealing with a Burn

Immediately STOP the burning! Pour cold water over the burned area as quickly as possible and remove burned clothing. Clothing and jewelry around the burn should be removed before swelling takes place. To lessen the pain, smaller, partial-thickness burns will benefit from "cold" such as a towel soaked in ice water or the immersion of the burn into clean, cold water. Like any other open wound, clean the burn of all debris, keep it clean, and prevent blisters from rupturing.

After cleaning and drying the burn, most medical manuals recommend covering all second-degree burns and some third-degree burns with a thin layer of antibiotic ointment. Cover the

wound with a clean or sterile nonstick dressing and bandage. If the burn is wet or oozes, wash the area daily with clean warm water, dry, and reapply a new dressing and bandage. For most third-degree burns, it's recommend that you cover the area with a dry, sterile, or at least clean, dressing. Ibuprofen is probably the best over-the-counter remedy for the pain associated with the burn. Burn victims will be dehydrated and should be encouraged to drink extra water although, as indicated above, advanced injuries will require intravenous fluids. Serious burn victims should be transported to the nearest medical facility for advanced care.

Although rarely mentioned in medical manuals, pure honey is amazing when applied topically to burns. Use only quality honey, not the cheap stuff cut with corn syrup. In this case the honey is used similar to the antibiotic ointment mentioned above. After cleaning the burn, apply honey and then a clean dressing, bandaged in place.

Dreadful Diarrhea

Diarrhea is caused by a number of variables that will be all too common in survival land. Intestinal infections from poorly disinfected water, food poisoning from eating spoiled stored food or from sampling weird food options, food sensitivities and allergies of family members that you never knew had an allergy to powdered milk, and plain old stress can all cause the screaming turkey trots.

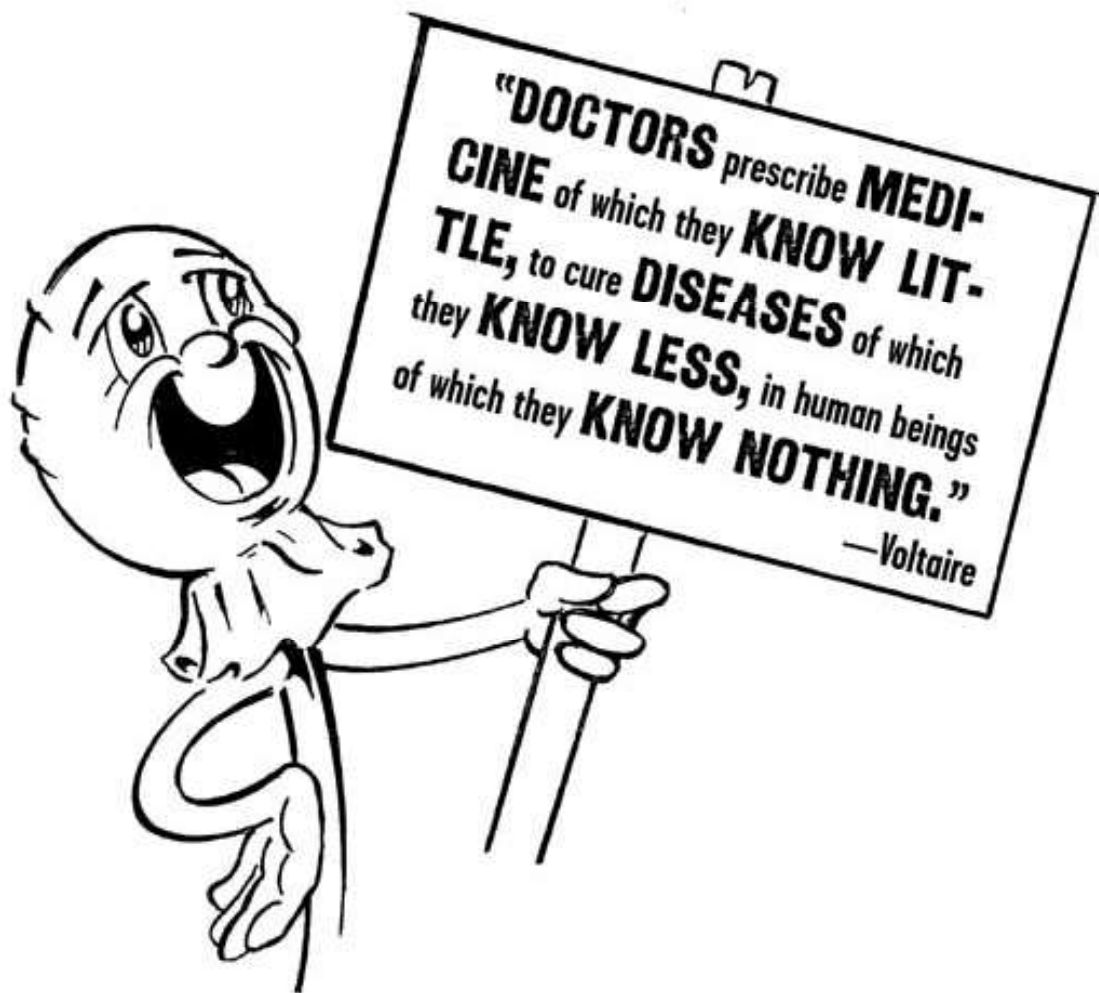
There are two main types of diarrhea. One is the less serious and more common "*traveler's diarrhea*." The other is the more invasive *bacterial diarrhea*. The difference in their effects is that bacterial diarrhea will have the added gifts of chills and fever, along with blood, obvious pus, or mucous in the stool. This type of diarrhea is very serious and will need to be treated with antimicrobial medication. Antidiarrheal medications such as Pepto-Bismol or Imodium AD should NOT be used with bacterial diarrhea as they could prolong the illness. Affected people under three years old, over sixty-five, who are pregnant, or who have had severe diarrhea for more than forty-eight to seventy-two hours with abdominal tenderness along with the above added symptoms should seek medical care as soon as possible.

Traveler's diarrhea caused by critters, usually *E. coli* bacteria, has an incubation period of twelve to forty eight hours and lasts from two to five days. Besides copious, horrid-smelling watery squirts, the symptoms of abdominal stress, obnoxious bowel sounds, and cramps are unmistakable to most everyone. Besides being a major bummer, severe diarrhea (categorized as ten bowel movements per day or more) and the severe dehydration it causes can kill very young, very old, or weaker family members, especially when visiting the hospital might be dubious at best after a calamity.

Treatment for Traveler's Diarrhea

The replacement of fluids and electrolytes (sodium and potassium) is of prime importance to all victims of diarrhea. Remember to check your pee for adequate hydration levels (urine should be clear, frequent, and copious) and use [the homemade electrolyte replacement](#) solution as needed. Broths, soups, and fruit juices can also be consumed. To keep up with the dehydrating effects of diarrhea, you may need to drink several quarts of fluid each day. It may also help to avoid milk products and meats for forty-eight hours afterward as well as diuretics such as coffee.

Antidiarrheal medications (Pepto-Bismol, Imodium AD, or Lomotil) vary in their potency and effectiveness person by person. Some medical professionals feel that their use prolongs diarrhea, even traveler's diarrhea. They should be used at your discretion for controlling painful cramps or during circumstances that are far more dangerous or uncomfortable than diarrhea itself, such as needing to stay in a bathroomless basement during a tornado or having to pile into an evacuation bus with dozens of other victims. Prolonged, moderate diarrhea caused by stress and fear (irritable colon syndrome) is best treated by hydration and electrolyte replacement, reassuring and comforting the person, and, of course, dealing with and eliminating the cause of the stress if possible.



Constipation

On the other end of the spectrum, survival stresses such as the consumption of monotonous, “different,” stored survival foods, dehydration, erratic schedules, and stress in general can cause constipation, which is more the passing of hard, dry stools rather than the frequency of a person’s bowel movement. Different people have different bowel movement schedules. Some people poop three times a day and others poop once every three days. Only you know when your schedule is off.

I have had more than one student become constipated on a stressful field course and not have a bowel movement for three days or more. A change in diet, dehydration, and the low-level stress of being at the mercy of a freaky guy in the woods takes its toll on their colon and they “lock up,” so to speak. If the problem doesn’t take care of itself in the field when they eventually get used to the routine and settle down, once back in the comfort of their own homes, they gleefully give birth to the mother lode.

Staphylococcal Enteritis: It’s What’s (Was) for Dinner

Staphylococcal Enteritis bacteria are present on nearly half of the population’s hands on a good day, let alone during a survival situation, thus the bacteria commonly contaminate foods during hands-on preparation. Any food can become contaminated with the bacteria but they are more commonly a problem in milk products and other food such as mayonnaise and meats. Staphylococcal toxin is produced when contaminated food goes without refrigeration for several hours (such as during a power outage), causing the toxin to multiply. Once it’s present, even boiling the food doesn’t kill the toxin. Only refrigeration or consumption of food immediately after it’s prepared can prevent this bug and others like it from doing their thing. Cramps, diarrhea, and sometimes vomiting begin within one to six hours after eating the suspect food and last until the food is emptied from the body, usually six hours. I mention it here, as it could be a common dinner guest at the onset of any power-failure-related emergency.

Constipation Cure

Most constipation can be remedied with an adequate fluid intake coupled with consuming high-moisture (fruits) and high-fiber foods such as bran cereals. Simply calming down and relaxing can do wonders for your colon as well as your psyche. Although in most circumstances laxatives will be unnecessary, the most effective and safest is Milk of Magnesia.

Mr. Jelly Finger: Fun with Fecal Compaction

Ignore the signs and symptoms of constipation and you’ll be forced to get to know one of your family members better than should be humanly allowed. When one ignores the need to defecate for whatever reason—having to poop in a weird potty, in a weird place, with a bunch of other weirdos, such as in a public shelter after a disaster—normal bowel reflexes might cease to function and allow fecal matter to pile up and get hard in the rectum. Add the

previous pitfalls of dehydration, strange food, and stress to the problem, and fecal compaction can quickly become a reality.

According to medical books, the best way to determine if someone has fecal compaction is to insert a gloved, lubricated finger into the rectum. If the finger runs into a brick wall, so to speak, the hardened fecal matter must be removed. This is best done by breaking up the fecal matter and removing the pieces as carefully as possible to avoid damaging the rectal and anal tissues. If the tissue is torn during the extraction, and subsequent bowel movements are painful, the person should eat a lower-fiber diet of soups and such, temporarily, while consuming one tablespoon of mineral oil two times per day to lubricate the stool and reduce pain. (Note: Prolonged diets of low-fiber foods will create constipation and you'll start the fun all over again. Mineral oil is a lubricant, not a laxative.) See how much easier and pleasant it is to drink your water and go to the bathroom when you have to?



Upset Stomach, Nausea, and Vomiting

“Dude, if you’re gonna hurl, hurl in this.”

— Garth offering nauseous friend a small paper cup in Wayne's World, the movie

Vomiting can be a sign of many issues ranging from motion sickness and head injuries to pregnancy, hyperthermia, or stumbling across a decomposing corpse. When you puke, you lose water, not to mention breakfast. If you keep puking, you’ll continue to lose water (until the alcoholic dry heaves) long after breakfast has hit the pavement. Nausea and vomiting will be one of the side effects of drinking water that wasn’t completely disinfected. Many

waterborne pathogens that enter your system require treatment with drugs; others, although the effects are hell, will seem to go away on their own, albeit with part of your intestines, or so it would seem.

An unconscious person vomiting is at risk of asphyxiation; just ask John Bonham and many other rockers. Even at the expense of a possible spinal injury, the patient must be carefully rolled on their side with their head lowered to allow the vomit to clear the airway.

Prolonged vomiting is serious and the person should immediately be taken to a hospital. Similar to diarrhea, the replacement of lost water and electrolytes are all-important to the healing process. When the patient is finally able to keep stuff down, feed them bland foods, preferably liquids such as soups for the next day.

Most people are able to keep down about a teaspoon of water every twenty minutes, so keep a medicine cup and timer or watch handy.

Bogus Blisters

Blisters, although seemingly innocent, can stop the foot-bound traveler in his or her bloody tracks. After a major disaster, many forms of transportation will be unable to operate due to clogged roads, debris, or a lack of fuel. You will be “hoofing it” to get from place to place, and you may very well be doing so in fashionable shoes created by people who wouldn’t walk more than fifty feet wearing their own creation.

Advanced blisters are painfully crippling and can take days to properly heal. Ruptured blisters are an invitation for infection, especially during the gnarly conditions present after a catastrophe. Imagine being a Hurricane Katrina survivor with open blisters walking knee-deep in the toxic goo that was once called water. Bad idea and a set-up for an infection that left unattended could easily mature into a life-threatening condition.

Before the Blister

Blisters are caused by excessive friction and result in a buildup of fluid beneath the skin. They most commonly manifest themselves on the heels or toes, but I’ve seen them happen all over the feet, even on top. New boots or shoes are notorious for causing blisters. All survival footwear should be thoroughly broken in, yet still be in great shape, not worn out. The infant blister will first appear as a hot spot on the foot, and this is the easiest time to deal with it. Stop, take off your shoes, dry out your socks if possible, and apply a piece of first-aid tape, duct tape, “second skin,” or adhesive felt (moleskin) over the hot spot. Make sure

to cover a larger area than necessary so the dressing doesn't peel off. Don't use a regular bandage over a hot spot as the nonadherent pad will continue to rub.

I often use duct tape for this purpose but it should be used with caution as it doesn't breathe. If left on for several hours and hurriedly pulled off, the weakened, moist skin underneath can easily tear. The need is to dry the foot out (and change your socks if you have a clean dry pair) and stop the rubbing of the affected area. In the outdoors, I've even applied pieces of bark or leaves over hot spots with positive results.

Since I go barefoot most of the time, when I do wear sandals, I pretape my heels with duct tape *before* donning my sandals. I know that the sides and tops of my feet are particularly sensitive to friction as they rarely have anything in contact with them.

Many people use two pairs of socks within their boots to avoid blisters. The thinner liner sock next to the foot will take much of the friction when walking. As in all things, an ounce of prevention will save you a lot of future pain and misery.

After the Blister

Once a blister manifests, you can create a pad from moleskin or some other material that is built-up with a cutout for the blister in the middle, like a donut. This keeps the pressure away from the blister itself.

Unbroken Blisters

If you're certain you can eliminate all pressure from the affected area, such as being able to lounge around your home barefoot for several days, don't pop the blister; let it heal naturally. If this isn't an option, and the blisters are painful, wash the area with soap and water, sterilize a needle with a lighter or match flame, and pop the blister around its edge in several places and gently push out the fluid. Leave the top flap of skin over the blister intact and place a nonstick bandage over the area.

Broken Blisters

Wash the area with soap and water. Broken blisters can have debris such as dirt or sand under the affected area that needs to be cleaned out. If necessary, gently cut off the flap of skin over the top of the blister to clean it out. Cover the blister with a sterile nonstick pad and

then cover this with tape or moleskin. Watch for signs of infection (redness and tenderness extending beyond the blister, discolored blister fluid, or pus) each day.

The Basic First-Aid Kit

There is no one portable first-aid kit that will cover all of your needs, and there is perhaps no better way to start an argument between otherwise good-natured and intelligent people than trading opinions about what to carry in a first-aid kit. Yet compiling a good first-aid kit is basic and relevant for every household on earth. Your kit should reflect the amount of first-aid training your family has. A family comprised of a physician and nurse might have a very elaborate first-aid kit, as they have the training and the know-how to use it. We green-horns will have far fewer bells and whistles, yet there's no reason we have to sit on the bench and watch the action happen. Like the contents of a survival kit, the contents of your family's first-aid kit will reflect many variables and should be custom-made to conform to your family's situation. Variables such as bulk, weight, cost, the number of people, and the proposed duration of your emergency will all factor in. Some items are staples, such as bandages and triple antibiotic ointment. If you live with a diabetic or someone on treatment for another medical condition, tailor your kit to reflect such a reality. One-size-fits-all first-aid kits are just as mythological as one-size-fits-all survival kits. Even if you live down the street from a hospital, don't assume it will be your saving grace after a catastrophe.

The following list, while solid for many first-aid needs, simply reflects a foundation upon which to build your custom kit. Be self-reliant and dare to think for yourself. The below supplies may be all you need, maybe even less. Although it seems like a lot of stuff to carry, most of it is very small in volume and weight. Be sure to pack the items separately in a well-marked pouch stating "First Aid." Don't throw the items into a huge jumble along with shampoo, deodorant, and breath mints. I have the majority of my first-aid items double-sealed in two zipper-lock freezer bags to keep the contents dry. The clear plastic makes it easy to locate certain items before opening the seal. Your first-aid container should be waterproof, highly visible, simple to open and use, and yet be rugged enough to protect its precious contents.

Foundational, Portable First-aid Kit Contents

(Important Note: The amount of medications and bandages will need to be increased for families. Stay-at-home kits can be larger but make sure to have a portable version for hitting the road.)

- Latex gloves—5 pair
- Bandages— small, medium, and large—10 or more of each
- Sterile gauze pads, 4-inch squares—6 or more
- Nonadherent gauze pads—6 or more
- Butterfly strips—10 or more
- First-aid tape, 2-inch width—one roll
- Kling wrap (self-adhering roller bandage)—one roll
- Elastic bandage, 3-inch width—one roll
- Moleskin (for blisters), 4-inch squares—4 or more
- Safety pins—5 to 10
- Irrigation syringe, 20 cc—one
- Triple antibiotic ointment—one tube
- Topical antiseptic towelettes—10 or more
- Topical anesthetic cream—one tube or pads
- One- to four-ounce bottle of povidone-iodine 10%
- Pain and anti-inflammatory medications, 50 tablets or more of each: acetaminophen tablets (Tylenol) 325 mg; ibuprofen tablets and aspirin, 200 mg. (*Special note about pain relievers:* In the case of serious body trauma, you will want the biggest, baddest pain relievers on the block. Many outdoor expeditions don't mess around with the realities of devastating mechanical injuries and remote locations. They typically carry Tylenol III, codeine, meperidine, and/or morphine. Check into the legalities of obtaining these and having them in your possession. Talk to your family physician, tell them your intention, and see what they recommend.)
- Small bar of antibacterial soap or waterless hand-sanitizer packets
- Decongestant—10 or more tablets
- Antihistamine—20 or more tablets

- Antacids—10 or more tablets
- Hydrocortisone cream—one small tube
- Antidiarrheal tablets—10 or more
- Laxative tablets—10 or more
- Cough drops—10 or more
- Sunscreen—one small tube
- Lip balm with sunscreen—one tube
- Insect repellent—one small tube or towelettes
- Powdered electrolyte replacement solution—4 to 6 single-use packets
- Small notebook and pencil (wrap duct tape around pencil)
- Tweezers—one pair
- Small scissors—one pair
- One small flashlight
- Scalpel with blades, a few single-edged razor blades, and/or a small, very sharp knife
- Matches or lighter
- One large needle
- One bandana
- Motion sickness tablets, optional
- Antibiotics (Note: As with the big guns of pain relief, antibiotics such as penicillin will need to be prescribed by a physician. Some family members may have serious allergies to several types of antibiotics. Talk with your family physician about your intention.)
- Good first-aid book
- A positive attitude and a little luck



- After a major disaster, assume that all hospitals in the area will be overwhelmed.
- Every family member of age should enroll in a basic first-aid and CPR class from a nearby provider as soon as possible. Wilderness First Responder (WFR) and Emergency Medical Technician (EMT) courses are also available for those who want to learn more.
- The average American home is the site of millions of medical emergencies every year, many of which can be avoided by paying attention and initiating home repairs or upgrades.
- Despite annual vaccinations, influenza in the U.S. kills more than 36,000 people and causes another 200,000 to enter hospitals each year.
- According to the Centers for Disease Control, having another flu pandemic is simply a matter of time.
- One person can transmit the flu to dozens and even hundreds of other people. Use basic safe-hygiene skills, such as containing sneezes and coughs, washing hands, avoiding touching your nose, eyes, and mouth, and staying home if you are ill. Stay healthy by eating right, exercising, and keeping a positive outlook about life.
- The possibilities of mass chaos during a pandemic are very real, as well as the realities of limited travel opportunities for buying needed supplies. Keep your family prepared with what they need to survive without outside assistance.
- Wounds will be very common after a disaster. Ensure precautions against body fluids and bloodborne pathogens and stop the bleeding, clean the wound, and dress with a clean or sterile dressing and bandage to minimize infection.
- Any wound can become infected. Common signs of infection are redness, swelling, increased pain and tenderness, pus, swollen lymph nodes, elevated temperature, and chills and fever for advanced infections.

- Infected, pus-filled wounds must be allowed to drain and should not be allowed to reseal when the infection is still present. Soak the wound in warm, disinfected water four times per day for twenty to thirty minutes, as the warm water helps in the healing process. After soaking, carefully dry the affected area and change the dressings as often as required to keep them clean and dry. Over-the-counter pain medications can be given if needed.
- Burns will be very common as people use their disaster supplies. STOP the burning, clean the burn of all debris, keep it clean, and prevent blisters from rupturing. Cover the burn with a thin layer of antibiotic ointment and then a clean or sterile nonstick dressing and bandage. Give over-the-counter ibuprofen for the pain. Burn victims will be dehydrated and should be encouraged to drink extra water.
- People with severe burns require large amounts of fluids to survive, which must usually be given intravenously. *All serious burns will need advanced medical care as soon as possible!*
- Diarrhea may be common after an emergency. There are two types of diarrhea, the less serious and more common “traveler’s diarrhea” and the other, more invasive bacterial diarrhea. The latter is very serious and will require advanced medical care.
- *The replacement of fluids and electrolytes (sodium and potassium) is of prime importance to all victims of diarrhea.*
- Antidiarrheal medications such as Pepto-Bismol, Imodium AD, or Lomotil should be used with discretion for controlling painful cramps or during circumstances that are far more dangerous or uncomfortable than the diarrhea itself.
- Due to stress and an irregular diet, constipation is possible. Most constipation can be remedied with an adequate fluid intake coupled with consuming high-moisture (fruits) and high-fiber (bran cereal) foods. Calming down and relaxing can help as well. Although mostly unnecessary if the above is followed, the most effective and safest laxative is Milk of Magnesia.
- Go to the bathroom when you need to, stay hydrated, and eat healthy to avoid fecal compaction.
- Nausea and vomiting are common side effects from drinking nondisinfected water. The replacement of lost water and electrolytes are all-important to the healing process. When possible, feed the victim bland foods, preferably liquids such as soups, for the next day.

- Serious blisters caused from repetitive rubbing can be very painful and impede foot travel. Stop the rubbing, keep feet dry, change socks, and deal with hot spots before they mature into blisters. Keep blisters clean and watch open blisters for possible infection.
- All families should compile and have ready a portable first-aid kit. What you choose to carry in a first-aid kit is dependent upon your family, the duration of your emergency, cost, weight, volume, and other variables.
- First-aid containers should be waterproof, highly visible, simple to open and use, and yet be rugged enough to protect their contents.